



An Agency of the United States  
Department of Commerce

**DATASTAI**[OPTIONS](#)[LOGOFF](#)[FEEDBACK](#)[DATABASES](#)[SEARCH PAGE](#)[TRIPLES](#)

---

## Document

Select the documents you wish to save or order by clicking the box next to the document, or click the link above the document to order directly.

---

[PREVIOUS DOCUMENT](#)[NEXT DOCUMENT](#)[SAVE AS RTF](#)[SAVE AS HTML](#)[SAVE AS TEXT](#)[SAVE AS PDF](#)[ORDER](#)

☐ **document 2 of 5** [Order Document](#)

**INSPEC - 1969 to date (INZZ)**

**Accession number & update**

7316341, A2002-16-6130-025; 20020708.

**Title**

Azimuthal **anchoring** properties of nematic **liquid crystal** on UV-exposed polyimide layers.

**Author(s)**

Akiyama-H; Iimura-Y.

**Author affiliation**

Graduated Sch of Technol, Tokyo Univ of Agric & Technol, Koganei, Japan.

**Source**

Japanese-Journal-of-Applied-Physics-Part-2 (Letters)(Japan), vol.41, no.5A, p.L521-3, 1 May 2002. , Published: Japan Soc. Appl. Phys.

**CODEN**

JAPLD8.

**ISSN**

ISSN: 0021-4922.

**Availability**

SICI: 0021-4922(20020501)41:5AL;1521:AAPN; 1-5.

**Publication year**

2002.

**Language**

EN.

**Publication type**

J Journal Paper.

**Treatment codes**

X Experimental.

## Abstract

The azimuthal **anchoring** properties of a nematic **liquid crystal** (LC) on two kinds of UV-exposed polyimide (PI) layers with different LC wettabilities have been examined. The azimuthal **anchoring** state of the PI layer showing a high LC wettability is revealed to be stronger than that showing a low LC wettability, which results from the strong LC adsorption state in the **polymer** showing a high LC wettability. These results indicate the important contribution of LC wettability to the azimuthal LC **anchoring** even in a photoalignment method. We also point out that the derivation of the azimuthal **anchoring energy** from a twist angle measurement is questionable due to the movement of the easy axis in a twisted nematic sample. (9 refs).

## Descriptors

molecular-orientation; nematic-liquid-crystals; organic-compounds; wetting.

## Keywords

azimuthal **anchoring** properties; nematic **liquid crystal**; UV exposed polyimide layers; wettabilities; photoalignment method; azimuthal **anchoring energy**; twist angle measurement.

## Classification codes

A6130G (Orientational order of **liquid** crystals in electric and magnetic fields).  
A6845 (Solid-fluid interface processes).

## Copyright statement

Copyright 2002, IEE.

## Digital object identifier

<http://dx.doi.org/10.1143/JJAP.41.L521>.

COPYRIGHT BY Inst. of Electrical Engineers, Stevenage, UK

PREVIOUS DOCUMENT

NEXT DOCUMENT

SAVE AS RTF

SAVE AS HTML

SAVE AS TEXT

SAVE AS PDF

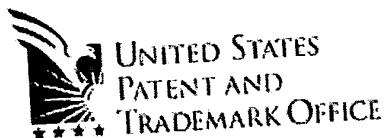
ORDER

TOP

NEWS & FAQS

THE DIALOG CORPORATION

© 2002 The Dialog Corporation



An Agency of the United States  
Department of Commerce



DATASTAR

OPTIONS LOGOFF

FEEDBACK

DATABASES SEARCH PAGE RESULTS

## Document

Select the documents you wish to **save** or **order** by clicking the box next to the document, or click the link above the document to order directly.

PREVIOUS DOCUMENT

NEXT DOCUMENT

SAVE AS RTF

SAVE AS HTML

SAVE AS TEXT

SAVE AS PDF

ORDER

☐ document 3 of 5 Order Document

INSPEC - 1969 to date (INZZ)

### Accession number & update

7272523, A2002-13-6130-016; 20020520.

### Title

Dynamics of **liquid crystal** azimuthal **anchoring** at a poly(vinyl cinnamate) interface measured in situ during polarized UV light irradiation.

### Author(s)

Lazarev-V-V; Barberi-R; Iovane-M; Papalino-L; Blinov-L-M.

### Author affiliation

Ist Nazionale di Fisica della Materia, Univ della Calabria, Rende, Italy.

### Source

**Liquid-Crystals** (UK), vol.29, no.2, p.273-9, Feb. 2002. , Published: Taylor & Francis.

### CODEN

LICRE6.

### ISSN

ISSN: 0267-8292.

### Availability

SICI: 0267-8292(200202)29:2L:273:DLCA; 1-1.

### Publication year

2002.

### Language

EN.

### Publication type

J Journal Paper.

### Treatment codes

7/25/02 2:57 PM

X Experimental.

# Abstract

An automated in situ technique for the measurement of the director reorientation at a nematic-aligning photosensitive **polymer** interface during polarized UV light irradiation has been developed. Using this technique, the photoinduced azimuthal **anchoring energy** ( $\sim 20$  merg cm /sup -2/) and the adsorption part of the latter ( $\sim 7$  merg cm/sup -2/) have been evaluated for the E7-poly(vinyl cinnamate) system. The kinetics of the director reorientation have been shown to be a very slow process ( $\sim 1$  h) and probably controlled by adsorption-desorption of **liquid crystal** molecules at the interface. (24 refs).

## Descriptors

liquid-crystal-polymers; molecular-orientation; nematic-liquid-crystals; ultraviolet-radiation-effects.

## Keywords

**liquid crystal** azimuthal **anchoring**; poly vinyl cinnamate interface; polarized UV light irradiation; director reorientation; nematic aligning photosensitive **polymer** interface; photoinduced azimuthal **anchoring energy**; adsorption desorption; **liquid crystal** molecules; 1 h.

## Classification codes

A6130E (Experimental determinations of smectic, nematic,

A6180B cholesteric, and lyotropic structures).  
A6470M (Ultraviolet, visible and infrared radiation effects).  
(Transitions in **liquid** crystals).

## Numerical indexing

time: 3.6E+03 s.

## Copyright statement

Copyright 2002, IEE.

## Digital object identifier

<http://dx.doi.org/10.1080/02678290110093228>.

COPYRIGHT BY Inst. of Electrical Engineers, Stevenage, UK

PREVIOUS DOCUMENT NEXT DOCUMENT SAVE AS RTF SAVE AS HTML SAVE AS TEXT  
SAVE AS PDF ORDER

TOP NEWS & FAQS THE DIALOG CORPORATION

© 2002 The Dialog Corporation